

# **MAUI CIVIL DEFENSE AGENCY**

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## **HURRICANE INFORMATION AND PREPAREDNESS TIPS**

Hurricanes don't start off as full-blown monsters. They typically follow a growth cycle which has them starting off as a:

**TROPICAL DISTURBANCE** - A moving area of thunderstorms that maintains its identity for 24 hours or more.

Growing into a:

**TROPICAL DEPRESSION** - An organized system of clouds and thunderstorms with a defined circulation and maximum sustained winds of 38 miles per hour or less.

Growing still further into a:

**TROPICAL STORM** - An organized system of strong thunderstorms with a defined circulation and maximum sustained winds of 39 to 73 miles per hour.

Reaching its full potential as a:

**HURRICANE** - Tropical cyclones in which winds reach sustained speeds of 74 miles per hour or more, and blow around a relatively calm center - the eye of the hurricane. Stated very simply, hurricanes are giant whirlwinds in which air moves in a large tightening spiral around a center of extreme low pressure, reaching maximum velocity in a circular band extending 20 or 30 miles from the rim of the eye. The circulation is counterclockwise in the Northern Hemisphere, and clockwise in the Southern Hemisphere. Near the center, hurricane winds may gust to more than 200 miles per hour. The entire storm dominates the ocean surface and lower atmosphere over tens of thousands of square miles.

The eye, like the spiral structure of the storm, is unique to hurricanes. Here, winds are light and skies are clear or partly cloudy. This calm is very deceptive, as it is bordered by maximum force winds and torrential rains. Many persons have been injured or killed when the calm eye lured them out of shelter, only to be caught in the maximum winds at the far side of the eye, where the winds blow from a direction opposite to that in the leading half of the hurricane.

Hurricanes are especially dangerous storms because they combine the **TRIPLE THREAT** of **VIOLENT WINDS**, **TORRENTIAL RAINS**, and abnormally **HIGH WAVES AND STORM SURGE**. Each of these factors alone can pose a serious threat to life and property. Taken together they are capable of inflicting a large loss of life and widespread destruction.

**HIGH WINDS.** Hurricane winds, especially when accelerated by terrain features, can destroy trees, vegetation, crops, as well as dwellings and other structures. Ridge tops and exposed locations downslope from mountains are at greatest risk.

**HEAVY RAIN AND FLASH FLOODING.** Heavy and prolonged rains can accompany all types of tropical cyclones, including hurricanes, tropical storms, and tropical depressions. Even the weakest tropical depressions can bring torrential rains and flash flooding.

**HIGH WAVES AND STORM SURGE.** Large ocean swell ahead of the hurricane may reach island shores while the storm is still several hundred miles away. As the hurricane nears the coastline, rapidly rising water levels from above-normal storm tides and high wind-driven waves will inundate coastal areas, erode beaches and pound and undermine waterfront structures and highways.

Hurricane season in Hawaii is from June through November, and it is important to remember that none of our islands are immune to hurricanes. Maui Civil Defense Agency staff often hear comments from members of the public such as “the mountain ranges of the Big Island protect us from hurricanes.” This simply isn’t true. In comparison to the potential volume of a hurricane (about 50,000 feet to the top of the eyewall and perhaps 400 miles in diameter), the mountains of the Big Island are roughly equivalent to a “speed bump.” It is not an issue of if a hurricane will ever impact Maui County, but simply a matter of when one will occur. With this in mind knowledge and preparation are essential.

## **ACTIONS TO TAKE WHEN A HURRICANE OR TROPICAL STORM APPROACHES**

Citizens should know what to do during hurricane and tropical storm watches and warnings. Watches and warnings are prepared for the Hawaiian Islands by the National Weather Service Central Pacific Hurricane Center in Honolulu. When watches and warnings are issued, people should closely **MONITOR LOCAL MEDIA (RADIO, TV, OR NOAA WEATHER RADIO) FOR OFFICIAL BULLETINS** of the storm’s progress and instructions from civil defense authorities.

## **STAY OR LEAVE?**

When a hurricane threatens, you will have to decide whether you should evacuate or whether you can ride out the storm in safety at home. The ultimate decision to stay or leave will be yours!

## **IN GENERAL:**

- If you live on the coastline **PLAN TO LEAVE.**
- If you live near a stream or in a flood plain **PLAN TO LEAVE.**
- If you live in a sturdy structure away from coastal and rainfall flooding, consider staying.

A hurricane or tropical storm watch means the threat of hurricane or tropical storm conditions exists for designated islands within 36 hours.

## **WHEN A HURRICANE OR TROPICAL STORM WATCH IS ISSUED:**

- T** Fuel family vehicles.
- T** Store and secure outdoor objects such as lawn furniture and other loose lightweight objects such as toys, garden tools and garbage cans.
- T** Prepare to cover all window and door openings with boards, shutters or other shielding materials.
- T** Check food and water supplies. Have clean, air-tight containers on hand to store at least two

weeks of drinking water (14 gallons per person), and stock up on canned provisions. Keep a small cooler with frozen gel packs handy for packing refrigerated items.

- T Check prescription medicines - obtain at least 10 days to 2 weeks supply.
- T Stock up on extra batteries for radios, flashlights and lanterns.
- T Check and replenish first-aid supplies.
- T Have on hand an extra supply of cash.

A hurricane or tropical storm warning means hurricane or tropical storm conditions are expected to occur for designated islands within 24 hours.

#### WHEN A HURRICANE OR TROPICAL STORM WARNING IS ISSUED:

- T Follow instructions issued by civil defense. Leave immediately if ordered to do so.
- T Complete preparation activities, such as boarding up windows and storing loose objects. Wedge sliding glass doors to prevent their lifting from their tracks.
- T Turn up refrigerator to maximum cold and don't open unless necessary.
- T Evacuate areas that might be affected by storm surge flooding. If evacuating, leave early and leave food and water for pets (shelters will not take them).
- T Notify neighbors and a family member outside of the warned area of your evacuation plans.
- T Use phone only for emergencies.

#### DURING THE STORM:

- T Stay away from windows and doors, even if they are covered.
- T Close all interior doors and brace exterior doors if possible.
- T Take refuge in a small interior room, closet, hallway or basement if available.
- T Lie on the floor under a table, or another sturdy object. Some protection is afforded by covering with a mattress during the height of the storm.
- T If the eye of the storm passes over, it will be calm for a short period of time. REMAIN INDOORS! As soon as the eye passes over, winds will increase rapidly to hurricane force from the opposite direction.
- T Remain calm. It may take several hours for the storm to pass.

Families should be prepared for all hazards that could affect their area. For tips on a Personal Preparation Plan or Emergency Survival Kit go to:

<http://www.co.maui.hi.us/departments/CivilDefense/#ppp>

or call Maui Civil Defense Agency at (808) 270-7285.